National
Foreign
Assessment
Center

Top Secret
[redacted]

CIASW SWDR-81-200J

Science and Weapons Daily Review

(b)(1)
(b)(3)
[T]

20 October 1981

APPROVED FOR RELEASE
DATE: NOV 2001

Top Secret
SW SWDR 81-200J
[redacted]
20 October 1981
Copy 138

2832

[redacted]

[redacted] Top Secret [redacted]

20 OCTOBER 1981

CONTENTS

[redacted]

[redacted] Top Secret

[redacted]

[redacted]

Top Secret [redacted]

OFFICE OF SCIENTIFIC AND WEAPONS RESEARCH

Science and Weapons Daily Review

20 OCTOBER 1981

FRANCE: WEAPON-GRADE PLUTONIUM FROM SPENT-POWER REACTOR FUEL [redacted]

Perhaps in anticipation of increased weapons requirements, France is working to develop a laser isotope separation process to obtain weapon-grade plutonium from the spent fuel of commercial power reactors. If successful, it may be capable [redacted] of producing considerably more weapon-grade plutonium than it now obtains by operating "production" reactors. France could exercise the option of retiring these reactors for economic reasons. [redacted]

[redacted] President Mitterrand and Premier Mauroy recently stated that France intends to modernize its strategic deterrent and its tactical nuclear arms. This may require additional plutonium for the military. Normally, weapon-grade plutonium is produced by irradiation of natural uranium in a production reactor for a short period. It is then removed and reprocessed to extract the plutonium. [redacted]

Commercial light-water power reactors are the predominant type now in operation and coming on-line in France. The La Hague commercial fuel reprocessing plant is processing spent fuel from those reactors and will continue to accumulate extracted plutonium. This plutonium, however, is only satisfactory for use as fast-breeder reactor fuel or for recycling in light-water reactors; it is not desirable for use in

[redacted]

[redacted]

modern nuclear warheads. A plutonium laser isotope separation process could upgrade some of this plutonium, which contains about 65 percent plutonium-239, to weapon-grade plutonium containing about 93 percent of the isotope. [redacted]

[redacted]

[redacted]

[redacted]

[redacted]